Friday, 8th May 3:20 pm-3:55 pm

Bioactive restoratives in operative dentistry – science, clinical applications and challenges

ABRAM - ADVANCED BIOACTIVE RESTORATIVE ADHESIVE MATERIALS: NEXT GENERATION SOLUTIONS FOR OPERATIVE DENTISTRY

This lecture will focus on Advanced Bioactive Restorative Adhesive Materials (ABRAM) to transform operative dentistry, thereby improving the longevity of dental restorations, via enhanced dentine remineralisation and sealing of the resin-dentine interface. The review of current bioactive restorative materials reveals that while many release ions and exhibit temporary antibacterial effects, few demonstrate long-term bioactive properties. Existing materials often fail to repair hybrid layer defects and prevent secondary caries adequately, and they show clinical performance comparable to conventional options. The creation of innovative ABRAMs with enhanced antibacterial and bioinductive properties will be emphasised, as will the need for standardised evaluation protocols and interdisciplinary collaboration to bridge laboratory innovations with clinical practice. Integrating these materials could lead to minimally invasive, biologically driven dental treatments.

SALVATORE SAURO

Dr. Salvatore Sauro (former president of the DMG-IADR group) is a professor of dental biomaterials at Universidad CEU-Cardenal Herrera in Valencia, coordinator of the "Dental Research" laboratory, and director of the BIODENT-REG group. He is also a visiting and honorary professor at several dental universities. He earned his Ph.D. in Dental Biomaterials Research at King's College London, where he continued research in adhesive dentistry and bioactive biomaterials.

For over 15 years, he has focused on dental biomaterials, preventive dentistry, and minimally invasive dentistry (H-index: 47), with more than 210 scientific publications. His research centers on bioactive and biomimetic materials aimed at regenerating enamel, dentin, pulp, and dental bone, enhancing biocompatibility and clinical efficacy. Among his main contributions is the development of a patented biomaterial that releases fluoride, calcium, phosphates, and bioactive glasses, capable of forming acid-resistant fluorapatite and promoting dental remineralization.